

Foreword and Editorial

Asia-Pacific Journal of Neural Networks and Its Applications (AJNNIA)

We are very happy to publish this issue of an Asia-Pacific Journal of Neural Networks and Its Applications by Global Vision School Publication.

This issue contains 3 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

In the research paper “Active Sonar Target Classification Using Multi-aspect based Sensing and Deep Belief Network”, this paper deals with multi-aspect based sensing scheme for active sonar target classification to improve the classification performance using the synthesized active sonar returns and deep belief network. Classification experiment was performed based on single and multi-aspect schemes. As a result, the proposed multi-aspect based scheme showed better performances than single aspect based scheme and conventional backpropagation neural network classifier.

In the paper “Method of Modeling of Big Data Analysis for Korean Medical Tourism: Machine Learning Approach”, for the last decade, the Republic of Korea (ROK) have been offering advanced medical tourism especially in the fields of plastic surgery and other areas where precision techniques are required. While such a tourism has been successful in attracting a lot of tourists seeking a better medical service from all over the world, the report published by the World Economic Forum showed that the competitiveness of the ROK’s tourism including medical tourism program is weakening. For this reason, this research focuses on understanding the actual condition of Korean tourism by investigating those foreigners who had participated the tour programs to establish a new strategy. For the research, a big data analysis using R-stuido was performed and machine-learning process was adopted for the analysis. With this method, it was possible to find some regularities that had contributed to visiting tourists’ negative impression of Korea, and accordingly, adequate solutions were presented. The big data analysis had revealed that visitors’ purpose of taking the a tour in the ROK and their experience of inconveniences during the tour were different depending on their age groups. Also, this paper produced an Android application that has Machine Learning function for visualizing big data result. The big data collected in the application helps customers to find kind hospitals by using the algorithm explained in this paper.

The paper entitled “An Automatic Diagnostic Algorithm for Parkinson’s Disease Based on Deep Learning”, magnetic resonance imaging (MRI) of the midbrain is the primary tool to diagnose Parkinson’s disease (PD). However, it is difficult to diagnose PD based on MR images manually. Therefore, we developed an automatic diagnostic algorithm for PD that was based on deep learning. The algorithm is composed of two neural networks. The first one is the Faster R-CNN that identifies the areas that may be used for PD diagnosis from midbrain MR images. The second one is the CNN that we defined, which classifies the areas identified

in the first network. The test results showed that our algorithm had a fairly high accuracy in PD diagnosis.

September 2018

**Editor of the September Issue on
Asia-Pacific Journal of Neural Networks and Its Applications**